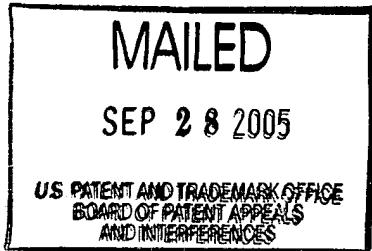


The opinion in support of the decision being entered today was *not* written for publication and is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte M. ASHRAF IMAM,
BHAKTA B. RATH and TEDDY M. KELLER



Appeal No. 2005-2658
Application 08/845,897

ON BRIEF

Before PAK, WARREN and KRATZ, *Administrative Patent Judges*.

WARREN, *Administrative Patent Judge*.

Decision on Appeal

This is an appeal under 35 U.S.C. § 134 from the decision of the examiner finally rejecting claims 1 through 4, 7, 11 and 17 through 22. Claims 5, 6, 8 through 10 and 12 through 16 are also of record and have been withdrawn from consideration by the examiner under 37 CFR § 1.142(b).

We have considered the answer mailed April 10, 2001; the supplemental answer mailed September 10, 2003, in response to our remand in Appeal No. 2002-0482 entered on June 26, 2003, in this application; the substitute brief filed February 16, 2001; and the reply brief filed May 15, 2001.

Claim 1 illustrates appellants' invention of an acoustically damping composite article, and is representative of the claims on appeal:¹

1. An acoustically damping composite article, comprising a non-elastomeric polymeric matrix having therein a metal foam, said metal foam having an open cell structure, said metal foam being impregnated with said polymeric matrix so as to completely penetrate said open cell structure of said foam and fill the cells thereof.

The references relied on by the examiner in the grounds of rejection are:²

| | | |
|----------------------|-----------|---------------|
| Tsang et al. (Tsang) | 4,605,595 | Aug. 12, 1986 |
| Reitz | 4,759,000 | Jul. 19, 1988 |

The examiner has advanced the following grounds of rejection on appeal:

claims 1 through 4, 7, 11, 19 and 22 stand rejected under 35 U.S.C. § 102(b) as anticipated by Tsang (answer, pages 3-4);

claims 1 through 4, 7, 11, 19 and 22 stand rejected under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as being obvious over Reitz (answer, page 4); and

claims 17, 18, 20 and 21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over either Tsang or Reitz (answer, pages 4-5);

Appellants state that the appealed claims "stand or fall together" (brief, page 5). Thus, we decide this appeal based on appealed claims 1 and 21 as representative of the appealed claims and the grounds of rejection. 37 CFR § 1.192(c)(7) (2000); *see also* 37 CFR § 41.37(c)(1)(vii) (September 2004).

We affirm the grounds of rejection of appealed claims 1 through 4, 7, 11 and 17 through 22 under §§ 102(b) and 103(a) over Tsang, and reverse the grounds of rejection of these claims based on Reitz. Accordingly, the decision of the examiner is affirmed.

We refer to the answer and supplemental answer and to the substitute brief and reply brief for a complete exposition of the positions advanced by the examiner and appellants.

¹ The examiner has states that the copy of appealed claim 3 in the appendix to the substitute is in error and has provide a correct copy thereof in the answer (page 3).

² The examiner has cited Jarema et al. in the listing of "Prior Art of Record" in the supplemental answer (page 3), and has relied on this patent document to support the grounds of rejection (supplemental answer, page 8) even though this reference was not cited in the statement of any of the grounds of rejection (answer, pages 3-5; supplemental answer, pages 4-5), and indeed, was not cited in the answer. Accordingly, we have not considered Jarema et al. *See In re Hoch*, 428 F.2d 1341, 1342 n.3, 166 USPQ 406, 407 n.3 (CCPA 1970); *compare Ex parte Raske*, 28 USPQ2d 1304, 1304-05 (Bd. Pat. App. & Int. 1993).

Opinion

In order to review the examiner's application of prior art to appealed claims 1 and 21, we must interpret these claims by giving the terms thereof the broadest reasonable interpretation in their ordinary usage as they would be understood by one of ordinary skill in the art in light of the written description in the specification, including the drawings, as interpreted by this person, unless another meaning is intended by appellants as established in the written description of the specification, and without reading into the claims any limitation or particular embodiment disclosed in the specification. *See, e.g., In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027 (Fed. Cir. 1997); *In re Zletz*, 893 F.2d 319, 321-22, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989). We determine that the plain language of independent claim 1 encompasses a composite article that comprises at least any non-elastomeric polymeric matrix and any metal foam having an open cell structure, wherein the non-elastomeric polymeric matrix has therein the metal foam and completely fills the cells thereof. We determine that the preambular language “[a]n acoustically damping composite article” when considered in the context of the claimed invention as a whole, including consideration thereof in light of the written description in appellants’ specification, must be given weight as a claim limitation which characterizes the claimed method in order to give meaning to the claim and properly define the invention. *See generally In re Fritch*, 972 F.2d 1260, 1262, 23 USPQ2d 1780, 1781 (Fed. Cir. 1992) (citing *Perkin-Elmer Corp. v. Computervision Corp.*, 732 F.2d 888, 896, 221 USPQ 669, 675 (Fed. Cir.), cert. denied, 469 U.S. 857[, 225 USPQ 792] (1984)); *Corning Glass Works v. Sumitomo Elec. U.S.A., Inc.*, 868 F.2d 1251, 1257, 9 USPQ2d 1962, 1966 (Fed. Cir. 1989), *In re Stencel*, 828 F.2d 751, 754-55, 4 USPQ2d 1071, 1073 (Fed. Cir. 1987). Thus, the preambular language limits the materials for the non-elastomeric polymeric matrix and/or the metal foam to those capable of imparting acoustically damping properties to the composite article at least to some extent, however small.

We point out here that the open-ended transitional term “comprising” opens claim 1 to include acoustically damping composite articles that contains *any* manner and amount of materials and structure in addition to the two ingredients specified in the claim. *See generally, Exxon Chem. Pats., Inc. v. Lubrizol Corp.*, 64 F.3d 1553, 1555, 35 USPQ2d 1801, 1802 (Fed.

Cir. 1995) (“The claimed composition is defined as comprising - meaning containing at least - five specific ingredients.”); *In re Baxter*, 656 F.2d 679, 686-87, 210 USPQ 795, 802-03 (CCPA 1981) (“As long as one of the monomers in the reaction is propylene, any other monomer may be present, because the term ‘comprises’ permits the *inclusion* of other steps, elements, or materials.”). We note in this respect, that appellants state in the written description in the specification that the non-elastomeric polymeric matrix “may include any manner of catalysts, curing agents, or additives desired” (page 8). We will not read into the appealed claims a limitation that any additional ingredient in the polymeric matrix is limited to additives involved with curing the polymer based on this disclosure as urged by appellants (e.g., substitute brief, page 6, and reply brief, page 3), because we find no basis in the claim language or in the written description in the specification on which to do so. *See, Morris*, 127 F.3d at 1054-55, 44 USPQ2d at 1027; *Zletz*, 893 F.2d at 321-22, 13 USPQ2d at 1322.

We determine that appealed independent claim 21 comprises at least *any* polymeric matrix and any metal foam having an open cell structure, wherein the polymeric matrix has therein the metal foam and completely fills the cells thereof, and wherein the thickness of the metal foam falls within the range of at least 3 times the average diameter of said cells. We interpret the preambular language “[a]n acoustically damping composite article” and the open-ended transitional term “comprising” in the same manner as we set forth above with respect to appealed claim 1. Appealed claim 21 differs from appealed claim 1 in that the polymeric matrix is not limited to non-elastomeric polymeric matrices, and in the specified thickness of the metal foam.

We have carefully reviewed the record on this appeal and based thereon find ourselves in agreement with the supported finding advanced by the examiner that as a matter of fact, *prima facie*, appealed claim 1 is anticipated by Tsang (answer, pages 3-4 and pages 5-6; supplemental answer, pages 4 and 6-7). Accordingly, we again evaluate all of the evidence of anticipation and non-anticipation based on the record as a whole, giving due consideration to the weight of appellant’s arguments in the substitute brief and reply brief. *See generally, In re Spada*, 911 F.2d 705, 707 n.3, 15 USPQ2d 1655, 1657 n.3. (Fed. Cir. 1990).

We find that Tsang discloses composite articles comprising open metal foams having an average pore, that is, cell, size of about 0.05 cm, in which the cells of the metal foam are filled with a mixture of epoxy resin, curing agent fillers and friction modifiers and cured (e.g., col. 4, ll. 6-35). Appellants submit that claim 1 requires that the metal foam cells are filled only with polymer and thus, would exclude the presence of filler and friction modifiers (substitute brief, pages 5-6; reply brief, pages 2-4). We disagree. We interpreted claim 1 above to encompass any non-elastomeric polymeric matrices, wherein the matrices can contain any manner of additional materials by reason of the transitional term “comprising.” Thus, claim 1 encompasses composite articles wherein the metal foam cells are filled with epoxy matrices, a non-elastomeric matrices, encompassing filler and friction modifiers,” and accordingly encompasses the structure of the cured composite articles disclosed by Tsang. The argument that the claimed invention “teaches away” from Tsang (substitute brief, page 6) is not an argument that addresses the issue of anticipation. *See Celeritas Technologies Ltd. V. Rockwell International Corp.*, 150 F.3d 1354, 1361, 47 USPQ2d 1516, 1522 (Fed. Cir. 1998) (“[T]he question whether a reference ‘teaches away’ from the invention is inapplicable to an anticipation analysis.”).

The only limitation of appealed claim 1 that is not expressly disclosed by Tsang for the composite articles thereof relied on by the examiner is the requirement that the article must be acoustically damping at least to some extent, however small. However, we find as a matter of fact that it reasonably appears that the composite article comprised of metal foam and the non-elastomeric epoxy would necessarily inherently have the property of acoustically damping at least to some extent even in view of the filler and friction modifiers, as indeed, the same aluminum metal foam and epoxy matrix are disclosed and claimed (e.g., appealed claims 2 and 3) by appellants in this respect. Accordingly, because it reasonably appears that the composite articles of Tsang relied on by the examiner are identical to the claimed composite articles encompassed by appealed claim 1, the burden has shifted to appellants to patentably distinguish the claimed composite articles from those of Tsang by the submission of persuasive argument and/or object evidence. On this record, appellants have not done so in either respect. *See, e.g., In re King*, 801 F.2d 1324, 1326-28, 231 USPQ 136, 138-39 (Fed. Cir. 1986); *In re Best*, 562 F.2d 1252, 1254-56, 195 USPQ 430, 432-34 (CCPA 1977); *In re Skoner*, 517 F.2d 947,

950-51, 186 USPQ 80, 82-83 (CCPA 1975) (“Appellants have chosen to describe their invention in terms of certain physical characteristics Merely choosing to describe their invention in this manner does not render patentable their method which is clearly obvious in view of [the reference]. [Citation omitted.]”); *cf. Spada*, 911 F.2d at 708-09, 15 USPQ2d at 1657-58 (“The Board held that the compositions claimed by Spada ‘appear to be identical’ to those described by Smith. While Spada criticizes the usage of the word ‘appear,’ we think that it was reasonable for the PTO to infer that the polymerization by both Smith and Spada of identical monomers, employing the same or similar polymerization techniques, would produce polymers having the identical composition.”).

Thus, on this record, as a matter of fact, Tsang satisfies each and every element of the claimed invention, arranged as required by the claim, either expressly or under the principles of inherency, in a manner sufficient to have placed a person of ordinary skill in the art in possession thereof. *See generally, Spada*, 911 F.2d at 708, 15 USPQ2d at 1657.

Accordingly, based on our consideration of the totality of the record before us, we have weighed the evidence of anticipation found in Tsang with appellants’ countervailing evidence of and argument for no anticipation in fact and find that the claimed invention encompassed by appealed claims 1 through 4, 7, 11, 19 and 22 are anticipated as a matter of fact under 35 U.S.C. § 102(b).

Turning now to the ground of rejection of appealed claim 21 under 35 U.S.C. § 103(a) insofar as it is based on Tsang, appellants’ only argument is that Tsang “has no disclosure with regard to acoustic damping” (reply brief, page 7; see substitute brief, page 9). We disagree because, as we found above, the composite articles of Tsang comprised of metal foam and the non-elastomeric epoxy would reasonably appear to have the property of acoustically damping at least to some extent, as indeed, the same aluminum metal foam and epoxy matrix are disclosed and claimed. Accordingly, because it reasonably appears that the composite articles of Tsang relied on by the examiner are identical or substantially identical to the claimed composite articles encompassed by appealed claim 21, the burden has shifted to appellants to patentably distinguish the claimed composite articles from those of Tsang by the submission of persuasive argument and/or object evidence even though this rejection is based on § 103(a). On this record, appellants

have not done so in either respect. *See, e.g., Best*, 562 F.2d at 1254-56, 195 USPQ at 432-34; *Skoner*, 517 F.2d at 950-51, 186 USPQ at 82-83; *cf. Spada*, 911 F.2d at 708-09, 15 USPQ2d at 1657-58.

Accordingly, based on our consideration of the totality of the record before us, we have weighed the evidence of obviousness found in Tsang with appellants' countervailing evidence of and argument for nonobviousness and conclude that the claimed invention encompassed by appealed claims 17, 18, 20 and 21 would have been obvious as a matter of law under 35 U.S.C. § 103(a).

We find that the dispositive issue with respect to whether the composite article disclosed at col. 9, l. 66, to col. 10, l. 12, of Reitz anticipates appealed claim 1 under § 102(b) and renders obvious appealed claims 1³ and 21 under 35 U.S.C. § 103(a), involves the recitation with respect to the composite article of aluminum-nickel foam and cured GE silicone rubber RTV-11 and RTV-28 which is permitted to cure or harden: "Housing sheet is an acoustic window. It is not, in the present embodiment an acoustically absorptive material such as the RTV silicone rubber materials as taught in U.S. Pat. No. 4,528,652" (col. 10, ll. 2-6). Appellants point out that the appealed claims require that the claimed composite article must be acoustically absorptive and the composite article of Reitz is disclosed to have hardened silicone rubber and function as an acoustic window (substitute brief, page 8). The examiner has given no weight to this disclosure of Reitz on the basis that the preambular language of appealed claims 1 and 21 is not entitled to patentable weight (supplemental answer, page 8) and otherwise finds the disclosure of Reitz not germane to the issue (answer, page 6).

We interpreted the preambular language of appealed claims 1 and 21 as limiting the acoustically damping composite articles above. On this record, we cannot find that, as a matter of fact, the composite article so disclosed by Reitz would reasonably be expected to exhibit the property of acoustically damping to any extent, however small. On this basis, we conclude that the examiner has not in fact established a *prima facie* case of anticipation under 35 U.S.C.

³ The alternative grounds of rejection under §§ 102(b) and 103(a) require separate consideration under each statutory provision. *See generally, Spada*, 911 F.2d at 707 n.3, 15 USPQ2d at 1657 n.3.

Appeal No. 2002-2658
Application 08/845,897

§ 102(b) over the reference, and because the ground of rejection under 35 U.S.C. § 103(a) rests on the same factual foundation, we likewise conclude that the examiner has not established a *prima facie* case of obviousness over the reference under this statutory provision.

Accordingly, we reverse the grounds of rejection of appealed claims 1 through 4, 7, 11 and 17 through 22 over Reitz.

The examiner's decision is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a)(1)(iv) (September 2004).

AFFIRMED

CHUNG K. PAK
Administrative Patent Judge

Administrative Patent Judge

CHARLES F. WARREN
Administrative Patent Judge

CHARLES F. WARREN
Administrative Patent Judge

PETER F. KRATZ
Administrative Patent Judge

PETER F. KRATZ
Administrative Patent Judge

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Appeal No. 2002-2658
Application 08/845,897

Associate Counsel Patents
Naval Research Laboratory
Code 3008 2
Washington, DC 20375-5000